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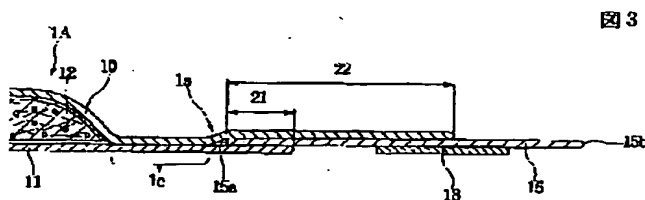
Epitome

(57) [Abstract]

[Technical problem] When forming a wing member by the member different from a top sheet, a wing member is certainly joined to a main part.

[Means for Solution] The absorption layer 12 is pinched between a backseat 11 and the top sheet 10, and main part 1A is formed in it. In the both-sides section of the cross direction of main part 1A, the wing member 15 is pinched and joined between a backseat 11 and the top sheet 10. The cementation width of face 22 of a cementation field of the top sheet 10 and the wing member 15 is made longer than the cementation width of face 21 of a cementation field of a backseat 11 and the wing member 15. Therefore, bonding strength of main part 1A and the wing member 15 can be made high.

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CLAIMS

[Claim(s)]

[Claim 1] It is the absorptivity article characterized by to pinch said wing member between said top sheets and backseats in the both-sides section of said main part in an absorptivity article with which a main part which consists of an absorption layer pinched between a liquid permeability top sheet, a backseat, and said both sheets, and a wing member which is prepared in the both-sides section of said main part, and extends from said main part to a way outside the cross direction were prepared, and to be joined.

[Claim 2] An absorptivity article according to claim 1 both a width-of-face size in said cross direction of a cementation field of said top sheet and wing member and whose width-of-face size in said cross direction of a cementation field of said backseat and wing member are 5mm or more.

[Claim 3] An absorptivity article according to claim 1 or 2 with the width-of-face size in a central field in which said wing member of said main part section is attached, a width-of-face size in said cross direction of said top sheet is widely formed rather than said backseat, and larger in said cross direction of a cementation field of said top sheet and wing member than a width-of-face size in said cross direction of a cementation field of said backseat and wing member.

[Claim 4] An absorptivity article given in either of claims 1-3 whose moisture vapor transmission by JIS-Z -0208 of said wing member is two or more 10000 g/m.

[Claim 5] When said width-of-face size of said cementation field of said top sheet

and said wing member is 10mm or more and sets area of said cementation field of said top sheet and said wing member to 1 (100%) An absorptivity article according to claim 4 with which a substantial plane-of-composition product by adhesives of said top sheet in said cementation field and said wing member is 0.2 (20% or less) or less, and joining cementation of said top sheet and said wing member is carried out further selectively.

[Claim 6] A joining joint is an absorptivity article according to claim 5 with which it extended crosswise, and a gap was opened in a longitudinal direction, more than one were prepared, and at least one of the joining joint of this is prolonged even from said cementation field to a wing member independent field.

[Claim 7] An absorptivity article given in either of claims 1-6 with a stiffness criterion larger 20mm or more by the cantilever method in a field in which said wing member, top sheet, and backseat are joined than a stiffness criterion by the cantilever method in a joint of said top sheet and backseat.

[Claim 8] An absorptivity article according to claim 7 whose stiffness criterion by the cantilever method of said wing member is 30-100mm in 50-150mm and CD at MD.

[Claim 9] Said wing member is an absorptivity article given in either of claims 1-8 whose shrinkage forces in the whole wing member at the time of 10% of distortion are 5 or more gves when it has elasticity crosswise [said], it goes across said wing member throughout said longitudinal direction and it lengthens to homogeneity crosswise [said].

[Claim 10] Said wing member is an absorptivity article given in either of claims 1-9 whose distortion when having elasticity crosswise [said] and lengthening to a limit crosswise [said] is 10 - 40% of ranges.

[Claim 11] An absorptivity article given in either of claims 1-10 whose total light transmission by JIS-K -7105 of said wing member is 20% or more.

[Claim 12] A manufacture method of an absorptivity article that a main part which consists of an absorption layer pinched between a liquid permeability top sheet and a backseat which are characterized by providing the following, and said both sheets, and a wing member which is prepared in edges on both sides of said main part, and extends from said main part to a way outside the cross direction were prepared (a) A process which joins a wing member raw material to both sides of the cross direction of a backseat raw material (b) A process which installs an absorption layer on said backseat raw material after said process (a) or before said process (a) (c) A process which supplies top sheet stock on said absorption layer, and sandwiches an absorber between said top sheet stock and backseat raw materials (d) a process which joins said top sheet stock and said backseat raw material on the outside of said absorption layer, and (e) — a process which obtains an absorptivity article with which a garbage of said backseat raw material and top sheet stock, and said wing member raw material was excised, and said main part and said wing member were connected

[Claim 13] A manufacture method of an absorptivity article according to claim 12 which joins said wing member raw material to the upper surface of said backseat raw material at said process (a), and is joined on both sides of said wing member raw material at said process (c) between said backseat raw materials and top sheet stock.

[Claim 14] A manufacture method of an absorptivity article according to claim 12 or 13 that said backseat raw material and said top sheet stock are joined by adhesives at said process (d).

[Claim 15] A manufacture method of an absorptivity article given in either of claims 12-14 including a process which carries out joining cementation of top sheet stock and the wing member raw material between said processes (d) and processes (e).

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to absorptivity articles, such as a sanitary napkin, and a panties liner, a urine picking pad. Furthermore, it is related with the absorptivity article with which the wing turned up to the KUROTCHI section down side of underwear at the time of wear was prepared in detail, and its manufacture method.

[0002]

[Description of the Prior Art] In order to make excrement, such as menstruation and urine, absorb in recent years, many absorptivity articles, such as a sanitary napkin, a panties liner, and a urine picking pad, are used. A wing is prepared in these absorptivity articles at the both-sides section of a longitudinal direction in many cases. This wing is turned up by the KUROTCHI section bottom of underwear, and the edge of underwear can be prevented from becoming dirty with excrement at the time of wearing. Moreover, the adhesion means for attaching in underwear is usually

formed in this wing. If a wing is attached and pasted up on the KUROTCHI section bottom of underwear, wearing by which the absorptivity article itself stopped being able to shift easily and it was stabilized will be attained.

[0003] This wing has the common thing which is making the member which constitutes the main part of an absorptivity article, for example, the thing to which the backseat and the top sheet were joined, project from the main part of an absorptivity article to one to the side.

[0004] However, when that to which the backseat and the top sheet were joined is used as a wing, as that manufacture method, the layered product whose absorption layer was pinched with the backseat and the top sheet is formed, and it is necessary from this layered product to trim the main part section and the wing of the shape of an ellipse configuration or hourglass pattern. Therefore, it is required to consider as an activity what was beforehand made broad so that said wing could be started as a width-of-face size of a backseat raw material and top sheet stock. And since it will leave the main part section and a wing as mentioned above and a top sheet and a backseat will be excised by the garbage, the useless portion of top sheet stock and the backseat raw materials increases too much.

[0005] Moreover, it is the conventional thing, and in order to make a function which is different from a top sheet in a wing member give, there are some which formed the wing member apart from the member which constitutes a main part. For example, the sanitary napkin which constituted a wing member and the side barrier (horizontal leakage prevention cuff) from same member is indicated by JP,6-47072,A. Since the member usually independently attached with this napkin is formed by one member, in a manufacturing process, it can decrease of 1 routing counter carry out, and can manufacture.

[0006] Moreover, the absorption article which made the wing member easy to fold up to the down side along the edge of the KUROTCHI section of underwear is indicated by ***** No. 511929 [nine to]. This wing member has the zone where extensibility differs, and the stress produced at the time of folding declines.

[0007] However, when a wing member consists of members other than the member which constitutes a main part, there is a defect of being easy to separate from a wing member from a main part. In the further above-mentioned example, since the wing member is joined to the front face of the top sheet of an absorptivity article, or a backseat, there is a limit in making high bonding strength of a wing member and a main part. And since the whole wing member is exposed to the front face of an absorptivity article, a possibility of the edge of a wing member being caught at the time of wearing, and separating from a main part is high.

[0008] Moreover, the ease of folding up to which a wing member meets the edge of underwear, and functions, such as permeability, are required. For example, if a wing member and the side barrier are constituted from same member like the former example, it will be hard coming to fold up a wing member to the down side along the edge of the KUROTCHI section of underwear. Furthermore, although the side barrier

is an impermeable thing and it is constituted, if a wing member is formed for the same raw material, permeability will fall and **** will usually occur in underwear. The wing member with the zone where extensibility differs like the latter example to it is possible for forming for a raw material with permeability, and it is easy to fold it up to the down side along the edge of the KUROTCCHI section of underwear. However, when a foldable area of a wing member becomes large by existence of the zone where extensibility differs and a wing member is folded up in a manufacturing process, it is difficult to fold up with the regular line. Consequently, productive efficiency is a pile to a riser.

[0009] It is in the object of this invention offering the absorptivity article to which it is for solving the above-mentioned technical problem, and the wing member was joined certainly.

[0010] The further object of this invention is to provide with the manufacture method an absorptivity article list with the wing member which made it easy to fold up to the down side along the edge of the KUROTCCHI section of underwear.

[0011] The further object of this invention is to provide an absorptivity article list with the wing member excellent in permeability with the manufacture method.

[0012] The object of further others of this invention is to be able to lessen the trim loss of a raw material as much as possible, and offer the manufacture method of an absorptivity article excellent in productive efficiency.

[0013]

[Means for Solving the Problem] A main part with which this invention consists of an absorption layer pinched between a liquid permeability top sheet, a backseat, and said both sheets, And it sets on absorptivity articles with which a wing member which is prepared in the both-sides section of said main part, and extends from said main part to a way outside the cross direction was prepared. Said wing member is characterized by absorptivity article characterized by being inserted and joined between said top sheets and backseats in the both-sides section of said main part.

[0014] In this invention, since a wing member is pinched between a top sheet and a backseat, a wing member can be certainly joined to a main part, and a wing member does not separate at the time of wearing. In this this invention, since a wing member is constituted from a material different from a top sheet or a backseat, various functions can be given to a wing member.

[0015] It is desirable that a width-of-face size in said cross direction of a cementation field of said top sheet and wing member and a width-of-face size in said cross direction of a cementation field of said backseat and wing member are 5mm or more in both this inventions.

[0016] Moreover, a width-of-face size in said cross direction of said top sheet is widely formed rather than said backseat in a central field in which said wing member of said main part section is attached, and it is desirable that the width-of-face size in said cross direction of a cementation field of said top sheet and wing member is larger than a width-of-face size in said cross direction of a cementation field of said

backseat and wing member.

[0017] Moreover, it is desirable that moisture vapor transmission by JIS-Z -0208 of said wing member is two or more 10000 g/m. In this case, when said width-of-face size of said cementation field of said top sheet and said wing member is 10mm or more and sets area of said cementation field of said top sheet and said wing member to 1 (100%) A substantial plane-of-composition product by adhesives of said top sheet in said cementation field and said wing member is 0.2 (20% or less) or less, and it is desirable that joining cementation of said top sheet and said wing member is carried out further selectively. Furthermore, as for a joining joint, it is desirable that extended crosswise, and opened a gap in a longitudinal direction, more than one were prepared, and at least one of the joining joint of this is prolonged even from said cementation field to a wing member independent field.

[0018] Moreover, it is desirable that a stiffness criterion by the cantilever method in a field in which said wing member, top sheet, and backseat are joined in this invention is larger than a stiffness criterion by the cantilever method in a joint of said top sheet and backseat 20mm or more. In this case, it is desirable that a stiffness criterion by the cantilever method of said wing member is 30-100mm in 50-150mm and CD at MD.

[0019] Moreover, when said wing member has elasticity crosswise [said], it goes across said wing member throughout said longitudinal direction and it lengthens to homogeneity crosswise [said] by this invention, it is desirable that a shrinkage force in the whole wing member at the time of 10% of distortion is 5 or more gves.

[0020] Moreover, as for said wing member, it is desirable that distortion when having elasticity crosswise [said] and lengthening to a limit crosswise [said] is 10 - 40% of range.

[0021] Moreover, it is desirable that total light transmission by JIS-K -7105 of said wing member is 20% or more in this invention.

[0022] Moreover, a main part which consists of an absorption layer pinched between a liquid permeability top sheet, a backseat, and said both sheets in this invention, And it sets to a manufacture method of an absorptivity article that a wing member which is prepared in edges on both sides of said main part, and extends from said main part to a way outside the cross direction was prepared. (a) A process which joins a wing member raw material to both sides of the cross direction of a backseat raw material, (b) A process which installs an absorption layer on said backseat raw material after said process (a) or before said process (a), (c) on a process which supplies top sheet stock on said absorption layer, and sandwiches an absorber between said top sheet stock and backseat raw materials, and the outside of the (d) aforementioned absorption layer A process which joins said top sheet stock and said backseat raw material, (e) A garbage of said backseat raw material and top sheet stock, and said wing member raw material is excised, and a manufacture method of an absorptivity article characterized by including a process which obtains an absorptivity article with which said main part and said wing member were connected

is offered.

[0023] By this manufacture method, since a deleted garbage which comes out after manufacture, and the so-called trim loss can attach a wing member in a main part that it is few and easily, it excels in productivity. In addition, about a manufacture method of this invention, a wing member raw material is not inserted between top sheet stock and a backseat raw material, for example, may join a wing member raw material to a rear-face side of a backseat raw material.

[0024] It is desirable to join said wing member raw material to the upper surface of said backseat raw material at said process (a), and to join on both sides of said wing member raw material at said process (c) between said backseat raw materials and top sheet stock.

[0025] It is desirable that said backseat raw material and said top sheet stock are joined by adhesives at said process (d).

[0026] It is desirable to include a process which carries out joining cementation of top sheet stock and the wing member raw material between said processes (d) and processes (e).

[0027]

[Embodiment of the Invention] It is the part plan showing the condition of having equipped underwear with the absorptivity article which showed the plan which looked at drawing 1 from the **** side of the absorptivity article of this invention, the plan which looked at the absorptivity article which showed drawing 2 to drawing 1 from the background, and drawing 3 in the cross section of the III-III line of drawing 1, and showed drawing 4 to drawing 1. In addition, the longitudinal direction of an absorptivity article is made into the direction of Y, and the cross direction which intersects perpendicularly with the direction of Y mostly is made into the direction of X.

[0028] The absorptivity article shown in drawing 1 is a sanitary napkin. This sanitary napkin 1 serves as bilateral symmetry mostly bordering on the center line Ly prolonged in the direction of Y. The sanitary napkin 1 is formed from the main part which consists of an absorption layer 12 pinched between the liquid permeability top sheet 10 turned to a **** side, the backseat 11 of non-liquid permeability turned outside, and said top sheet 10 and said backseat 11, and the wing member 15 prepared in the both-sides section of the direction of Y of main part 1A at the list, as shown also in the cross section shown in drawing 3. And it is mutually joined by hot melt adhesive etc. around the absorption layer 12, and the top sheet 10 and the backseat 11 form circumference joint 1e.

[0029] As shown in drawing 2, adhesives 19 are formed in the background of main part 1A of a sanitary napkin 1, and adhesives 18 are formed in the background of the wing member 15. As shown in drawing 4 at the time of wearing, a sanitary napkin 1 is formed in the KUROTCI section 32 inside underwear 30. At this time, the adhesives 19 formed in the background of main part 1A are hung on the inner surface of the KUROTCI section 32 of underwear 30. And the wing member 15 and

the extension portion of the top sheet 10 which extend to a way outside the direction of X of main part 1A are bent along the edge 31 of underwear 30, and the wing member 15 is hung on underwear 30 by adhesives 18. Thus, by forming the wing member 15, it can prevent that the edge of underwear becomes dirty or a sanitary napkin 1 shifts.

[0030] As shown in drawing 3, the wing member 15 is pinched between the top sheet 10 and a backseat 11 in a flank, and is joined with adhesives, such as hot melt. As for the lap width of face 21 of the cementation field, i.e., the cementation width of face in the direction of X of a backseat 11 and the wing member 15, and the cementation width of face 22 of the top sheet 10 and the wing member 15, it is desirable that it is at least 5mm or more so that neither of wing member 15 may separate easily from main part 1A.

[0031] In order to raise the bonding strength (tearing strength) of the wing member 15 and main part 1A furthermore, and in order to make the wing member 15 easy to bend from main part 1A when folding up along the edge 31 of underwear, as for the top sheet 10, having extended to the direction outside of X is more desirable than a backseat 11. That is, in the field in which said wing member 15 is attached in the center section of the direction of Y of main part 1A, it is more desirable than the cementation width of face 21 in the direction of X of the backseat 11 and the wing member 15 with which the size of the direction of X of the top sheet 10 is larger than the size of said direction of X of a backseat 11, consequently is indicated to be in the cross section of drawing 3 that the cementation width of face 22 of the top sheet 10 and the

[0032] In addition, although bonding strength (tearing strength) of main part 1A and the wing member 15 can be made high also by making a backseat 11 take out to the direction outside of X a total for a long time rather than the top sheet 10, when a backseat 11 is liquid impermeability, if a backseat 11 is made to extend to the direction outside of X, the moisture vapor transmission of a wing will fall. It is desirable to make the extension width-of-face size from this reason to the direction of X of the top sheet 10 longer than said extension width-of-face size of a backseat 11, to enlarge cementation width of face of the top sheet 10 and the wing member 15, and to raise the bonding strength of the wing member 15.

[0033] As for the bonding strength (tearing strength) of the wing member 15 and the top sheet 10, it is desirable that it is more than 1000g (f).

[0034] (Measurement 1) Said tearing strength of the wing member 15 and the top sheet 10 was measured as follows. The zygote of the top sheet 10 of a configuration and the wing member 15 which are shown in drawing 1 was manufactured. This does not have a backseat 11 and the absorption layer 12.

[0035] The crosswise lateral part, i.e., the portion in which the wing member 15 which is not joined to the top sheet 10 has appeared independently, has been held by one chuck rather than said cementation width of face 22 of one wing member 15, and the head by the side of the graphic display upper part of drawing 1 of the top

sheet 10 (Y1 side) has been held by the chuck of another side. When the chuck which fixes the chuck grasping the wing member 15 and is holding the head of the top sheet 10 was pulled to Y 2-way, the load given between said chucks in the flash when a tear began to occur in the joint of the top sheet 10 and the wing member 15 was made into measured value (g). In addition, relative velocity to the direction of Y of the chuck of another side to one chuck in this case was made into 100 mm/min. [0036] Moreover, by the measured sample, it went across the cementation width of face 22 of the direction of X of said top sheet 10 and wing member 15 in the direction of Y, and was made homogeneity. Moreover, in the cementation field of said cementation width of face 22, between the top sheet 10 and the wing member 15, hot melt adhesive was applied so that distribution of adhesives might become homogeneity in the cementation field of the cementation width of face 22 intermittently. When the whole surface product of the cementation field in said cementation width of face 22 was set to 1 (100%), spreading area (substantial plane-of-composition product) of the hot melt adhesive in said cementation field was set to 0.5 (50%).

[0037] The result of having measured said tearing strength about the sample which changed the size of said cementation width of face 22, respectively is shown. Cementation width of face Tearing strength of 5mm 500gten mm 700g15mm 1200g20mm As for the cementation width of face 22 of the top sheet 10 and the wing member 15, it is more desirable than this result that it is 15mm or more 1200g. However, said tearing strength can be reinforced with the zygote of main part 1A and the wing member 15 by cementation to a backseat 11 and the wing member 15. Therefore, the cementation width of face 22 of the top sheet 10 and the wing member 15 has 10 desirablemm or more. It is 15mm or more still more preferably. [0038] Next, the wing member 15 is formed from the sheet which has permeability preferably so that the humidity in underwear may become high at the time of wearing and **** may not occur. As for the moisture vapor transmission by JIS-Z - 0208 of the wing member 15, it is desirable that it is more than 10000 g/m².24h. Moreover, it is desirable that the moisture vapor transmission of a top sheet is also more than 10000 g/m².24h. However, in the cementation field of the top sheet 10 and the wing member 15, if hot melt adhesive is applied all over the cementation field of the cementation width of face 22, moisture vapor transmission will fall in the field with which the wing member 15 and the top sheet 10 have lapped. Therefore, it is desirable to adjust the spreading area (substantial plane-of-composition product) of the adhesives in the cementation field of the cementation width of face 22. However, the spreading area of these adhesives also affects the bonding strength (tearing strength) of main part 1A and the wing member 15.

[0039] (Measurement 2) Using the zygote with the sample 10 explained by said measurement 1, i.e., a top sheet, and the wing member 15, said cementation width of face 22 was set to 15mm (minimum of the desirable range obtained by said measurement 1), the spreading area (substantial plane of composition product) of

adhesives was changed, and the relation between the moisture vapor transmission in the cementation field in said cementation width of face 22 and tearing strength was measured there.

[0040] About the ratio of the spreading area of adhesives to the area of a cementation field here, it is as the same as said measurement 1 explained. Moreover, measurement of tearing strength is the same as said measurement 1.

[0041] The measurement result is as follows. (In addition, the unit of moisture vapor transmission is g/m².24h) .

[0042]

Adhesion surface ratio Moisture vapor transmission 5% of tearing strength 95000 300g10% 9000 500g20% 8000 1000g50% 5000 1200g100% 0 1200g of moisture vapor transmission will serve as a desirable value from this result, if the spreading surface ratio of adhesives is 20% or less. However, since tearing strength is falling, it is desirable to join the wing member 15 and the top sheet 10 by joining cementation (a heat seal, RF joining, ultrasonic welding, etc.) further in such a case, and to make bonding strength high.

[0043] With the gestalt of operation shown in drawing 1 , the heat seal sections 16a and 16b prolonged in the direction of X open a gap in a longitudinal direction, and are prepared in it so that [tearing strength] moisture vapor transmission in within the limits of the cementation width of face 22 may not not much be reduced and it may be raised. [two or more] At this time, even if there is little heat seal section either, it is desirable that one (drawing 1 heat seal sections 16a and 16a) is prolonged to the field where the wing member 15 has appeared independently across the range of said cementation width of face 22. It is possible by forming such the heat seal sections 16a and 16b to make good moisture vapor transmission in the range of the cementation width of face 22, and to keep the **** reinforcement of the top sheet 10 and the wing member 15 at at least 1200g or more moreover.

[0044] Thus, when the wing member 15 is prolonged in the heat seal section to the field which has appeared independently, both the edges of the direction of X of the top sheet 10 are effective in preventing separating from the wing member 15. That is, when applying the hot melt adhesive for joining the top sheet 10 and the wing member 15 within said cementation width of face 22 and it applies to the edge of the direction of X of the top sheet 10, by the manufacturing process, said edge of the top sheet 10 pastes a manufacturing installation, and there is a possibility of causing trouble to fabrication operation. Therefore, it is required to usually form the field where adhesives are not applied at said edge of the top sheet 10 by some width of face. In such a case, if said heat seal sections 16a and 16b are formed, it can prevent that the edge of the top sheet 10 loses touch with the wing member 15.

[0045] Moreover, it is desirable that it is easy to bend a wing portion along the edge 31 of underwear 30 in a sanitary napkin 1. The field where the wing member 15, the top sheet 10, and the backseat 11 are joined, Namely, the stiffness criterion (value measured by the cantilever method of JIS L1096) in the field of the cementation

width of face 21 in drawing 3 If larger 20mm or more than the stiffness criterion in the joint of said top sheet 10 and backseat 11, i.e., circumference joint 1e, a wing will become easy to bend in 1s (end face edge of the wing member 15) of borderlines of main part 1A and the wing member 15.

[0046] In order to make the wing member 15 further easy to bend in 1s of borderlines, it is JIS about the stiffness criterion of circumference joint 1e (portion to which the laminating of the top sheet 10 and the backseat 11 was carried out). In the cantilever method of L1096, it is set as 30-80mm. It is desirable to set the stiffness criterion of the portion (portion to which the laminating of the top sheet 10, a backseat 11, and the wing member 15 was carried out) near 1s of borderlines by the side of the wing member 15 as 50-150mm.

[0047] If the stiffness criterion of the portion by the side of the wing member 15 near 1s of borderlines is smaller than said minimum (50mm), it will not bend in the portion of 1s of borderlines, but will become easy to bend in the portion of a crosswise outside rather than 1s of borderlines. The result 15, for example, a wing member, bends in the spreading field of the shear-connector adhesives 18, adhesives 18 paste up, and the inconvenience of it becoming impossible to return in the shape of flatness in the condition [that the wing member 15 has bent] etc. arises. In addition, when each stiffness criterion is larger than said maximum (150mm), a wearing person may sense sense of incongruity while in use.

[0048] In addition, as for the rigidity of the wing member 15, it is desirable that MD is [50-150mm and CD] 30-100mm. ** to the skin to exceed decreases and a feeling of wearing becomes good. Moreover, the stiffness criterion of the portion (portion to which the laminating of the top sheet 10, a backseat 11, and the wing member 15 was carried out) near 1s of borderlines of a wing member also turns into a desirable value in this case.

[0049] Moreover, when the width-of-face size of the direction of X is 50mm, as for the wing member 15, it is desirable that it can expand and contract in 5-20mm in this direction. That is, as for said wing member, it is desirable that the distortion when having elasticity crosswise [said] and lengthening to a limit crosswise [said] is 10 - 40% of range. In addition, or there is no elasticity in a lengthwise direction, a quite small thing is desirable. When folding up to the down side and making it hang in the KUROTCI section 32 of underwear 30 at the time of wearing, it is easy to make it hang that the wing member 15 is to some extent elastic in the direction of X. In this case, in order to make the wing member 15 easy to bend to the KUROTCI section 32, when said wing member is lengthened to homogeneity crosswise [said] throughout said longitudinal direction, it is desirable that the shrinkage force in the whole wing member at the time of 10% of distortion is 5 or more gves.

[0050] Although the wing member 15 may have elasticity in the all, it may establish elasticity only in a need part. For example, as shown in drawing 5 , 15s of fields which have elasticity in 1s side of borderlines of wing member 15A may be prepared. Moreover, the fields 15s and 15r which have elasticity in the 1s [of borderlines]

and edge 15b side like wing member 15B shown in drawing 6 may be formed.

[0051] in order [in addition, / in order to give elasticity to the wing member 15 whole, or in order to give elasticity in said fields 15s or 15r] — the said wing member 15 whole or Fields 15s or 15r — some of urethane and span bond nonwoven fabrics — it can form by lamination.

[0052] Moreover, as for the wing member 15, it is desirable that the total light transmission by JIS-K -7105 is 20% or more. The wing member 15 is fixed to the outside of underwear 30 in the KUROTCI section of underwear 30, as shown in drawing 4 . Therefore, since the color of underwear 30 is transparent and it is visible through the wing member 15 when the light transmission of the wing member 15 is high, having equipped with the sanitary napkin is unclear. For example, when the wing member 15 is formed with a nonwoven fabric, as for a nonwoven fabric, it is desirable that it is the un-dull-ized sheet which plasticizers, such as titanium, do not contain. Moreover, for example, you may form with a bright film etc.

[0053] The wing member 15 can be formed with a nonwoven fabric, a film, etc. Preferably, it is the thermal bond nonwoven fabric which consists of polypropylene, and is formed with a span bond-melt BURON-span bond nonwoven fabric still more preferably.

[0054] The top sheet 10 is formed for hydrophobic fiber, hydrophilic fiber, etc. by which hydrophilic processing was carried out, for example, are point bond, Ayr through, span bond, a span race nonwoven fabric, etc. Or the top sheet 10 may be formed for the cushion layer which becomes said nonwoven fabric from a bulky nonwoven fabric in piles.

[0055] A backseat 11 is liquid impermeability, is permeability, for example, is formed with the resin sheet of a polyolefine system etc. Or a waterproof film may be made to intervene between a backseat 11 and the absorption layer 12, using a nonwoven fabric as a backseat 11.

[0056] The absorption layer 12 is formed with fiber Webb who consists of hydrophilic fiber, such as an absorptivity raw material, for example, rayon, and a cotton, the mixture of grinding pulp or grinding pulp, and high absorptivity polymer, etc. Or the mixture of grinding pulp or grinding pulp, and high absorptivity polymer is wrapped in absorptivity sheets, such as tissue.

[0057] Next, the manufacture method of the sanitary napkin 1 shown in drawing 1 is explained with reference to drawing 7 -9.

[0058] First, wing member raw material 15C of a rectangular-head piece configuration is joined to the both-sides section of the cross direction of band-like backseat raw material 11A currently continuously supplied as shown in drawing 7 . This wing member raw material 15C is cut from a band-like material, and this wing member raw material 15C opens a gap in the direction of the direction of MD, is supplied to it, and is mutually joined to backseat raw material 11A by hot melt adhesive.

[0059] Next, as shown in drawing 8 , the absorption layer 12 is supplied

intermittently, and it is on backseat raw material 11A, and is installed among the wing member raw materials 15C and 15C. At this time, backseat raw material 11A and the absorption layer 12 are joined with hot melt adhesive etc. In addition, after the absorption layer 12 is supplied on backseat raw material 11A, said wing member raw material 15C may join with glue on backseat raw material 11A.

[0060] Then, top sheet stock 10A is supplied continuously, and the absorption layer 12 is pinched between backseat raw material 11A and top sheet stock 10A. At this time, top sheet stock 10A and backseat raw material 11A paste up around the absorption layer 12 with the hot melt adhesive beforehand applied to backseat raw material 11A.

[0061] And as shown in drawing 9, with the 1st roll 40, the heat seal of the periphery of the absorption layer 12 is carried out, top sheet stock 10A and backseat raw material 11A are joined around the absorption layer 12, and circumference joint 1e is formed. At this time, the heat seal sections 16a and 16b are simultaneously formed in the joint of top sheet stock 10A and backseat raw material 11A.

[0062] And a garbage is deleted with the 2nd roll 41 (trimming or trim cut). The wing member 15 passes through the sanitary napkin 1 cut and obtained a backseat side, or it is folded up to a top sheet side. If the wing member 15 has become that it is easy to be folded up in 1s of borderlines at this time as described above, a bending process can be advanced easily. And although not illustrated, it is further folded into three fold or four, and is packed according to an individual.

[0063] If a wing member is attached for main part 1A at the above processes, it can attach simply and certainly. Moreover, when making the conventional top sheet extend to the method of the outside of the cross direction and forming a wing by the manufacture method of this invention, there are few abolition portions compared with the case where make top sheet extension carry out crosswise including a wing, and a garbage is deleted (there are few trim losses).

[0064] In addition, the absorptivity article with which the wing member of this invention is prepared is not restricted to a sanitary napkin which was described the account of a top, for example, can be applied to a panties liner, a urine picking pad, etc. And the whole configuration is suitably changed by the purpose of use. Moreover, on absorptivity articles, it is also possible to prepare the so-called barrier cuff for horizontal leakage prevention (side gathers) etc. in the both-sides section.

[0065]

[Effect of the Invention] As stated above, in the absorptivity articles of this invention, a wing member does not secede from a main part easily. Moreover, though moisture vapor transmission and permeability are maintained, a wing member is certainly joinable to a main part. Moreover, a wing member can be made easy to bend by the flank of a main part by adjusting the rigidity of a wing member for a main part. In this case, wearing becomes easy at the time of wearing, and it bends in a manufacturing process and processing becomes easy.

[0066] Moreover, by the manufacture method of the absorptivity article of this invention, since the abolition portion produced into a manufacturing process can manufacture that it is few and easily, productivity can be made high.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The plan seen from the **** side of the absorptivity article of this invention

[Drawing 2] The plan which looked at the absorptivity article shown in drawing 1 from the background

[Drawing 3] The cross section of the III-III line of drawing 1

[Drawing 4] The part plan showing the condition of having equipped underwear with the absorptivity article shown in drawing 1

[Drawing 5] The plan showing other examples of a wing member

[Drawing 6] The plan showing the example of further others of a wing member

[Drawing 7] Process drawing explaining the condition of supplying a backseat raw material and a wing member raw material

[Drawing 8] Process drawing explaining the condition of supplying an absorption layer and top sheet stock

[Drawing 9] Final process drawing which obtains a sanitary napkin

[Description of Notations]

1 Sanitary Napkin

1A Main part

1e Circumference joint

1s Borderline

10 Top Sheet

10A Top sheet stock

11 Backseat

11A Backseat raw material
 12 Absorption Layer
 15 Wing Member
 15C Wing member raw material
 16a, 16b Heat seal section
 18 Adhesives
 19 Adhesives
 21 Cementation Width of Face
 22 Cementation Width of Face
 30 Underwear
 31 Edge
 32 KUROTCI Section
 40 1st Roll
 41 2nd Roll

[Translation done.]

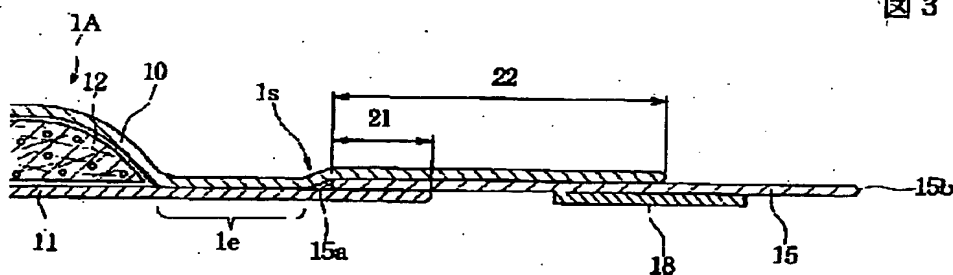
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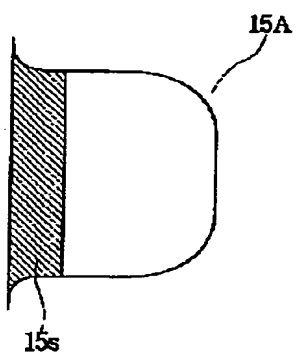
DRAWINGS

[Drawing 3]



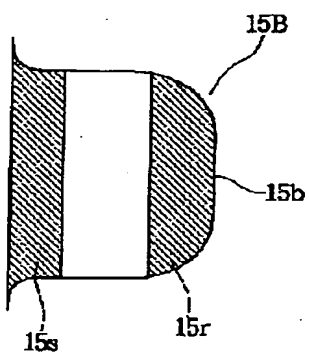
[Drawing 5]

図 5



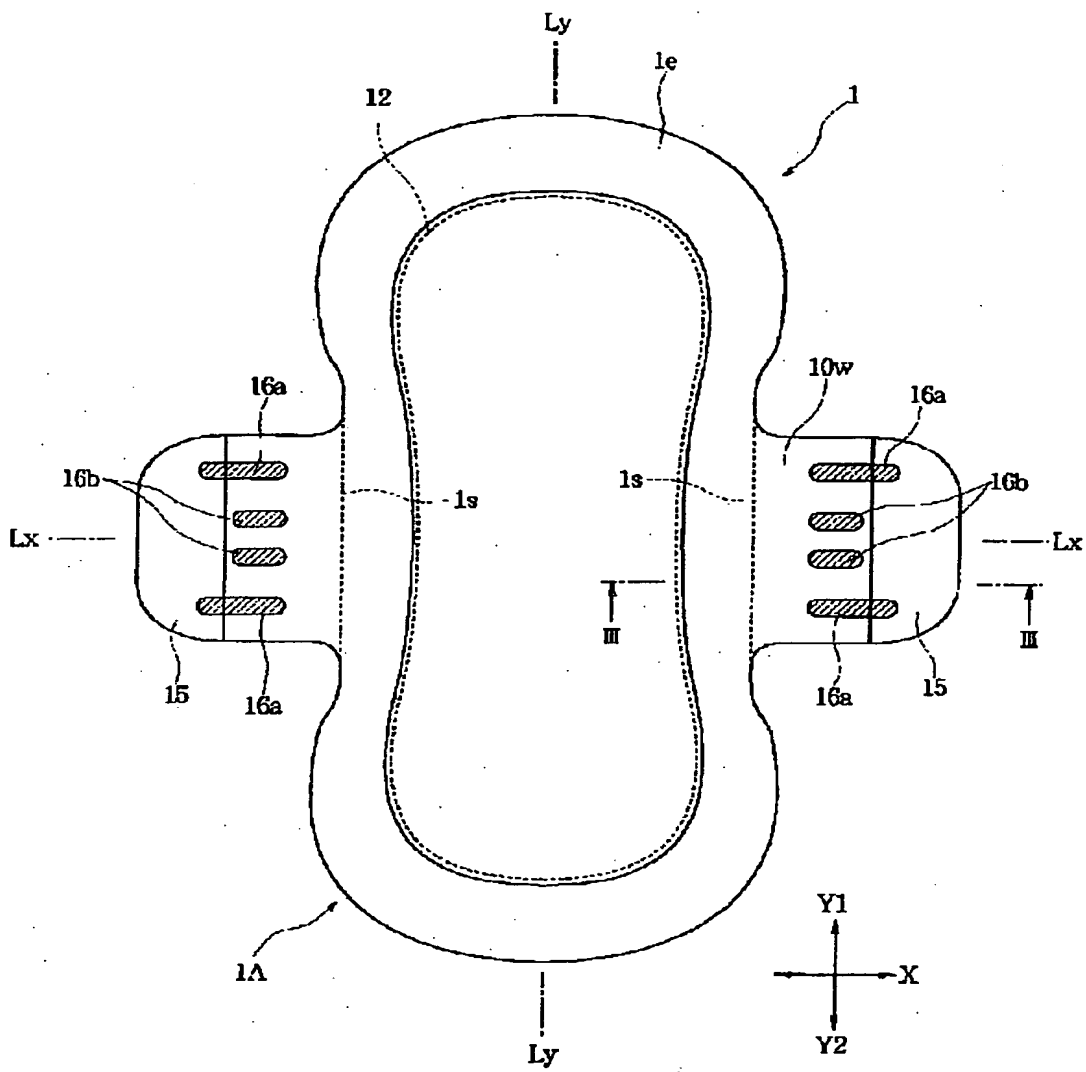
[Drawing 6]

図 6



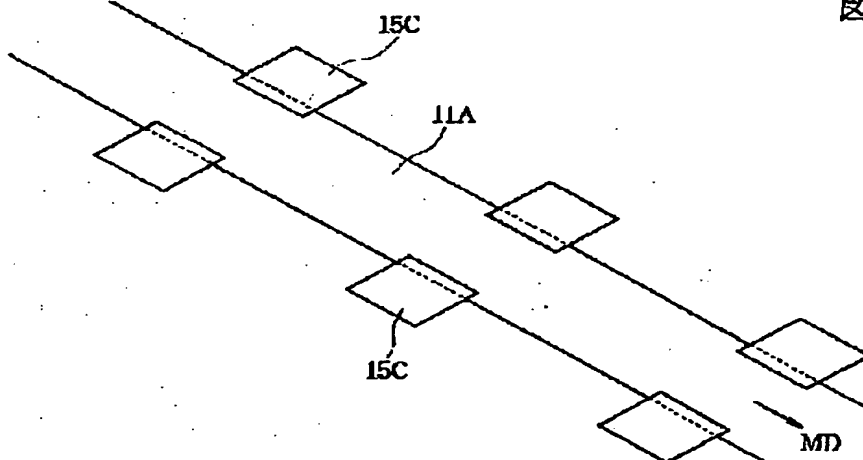
[Drawing 1]

図 1



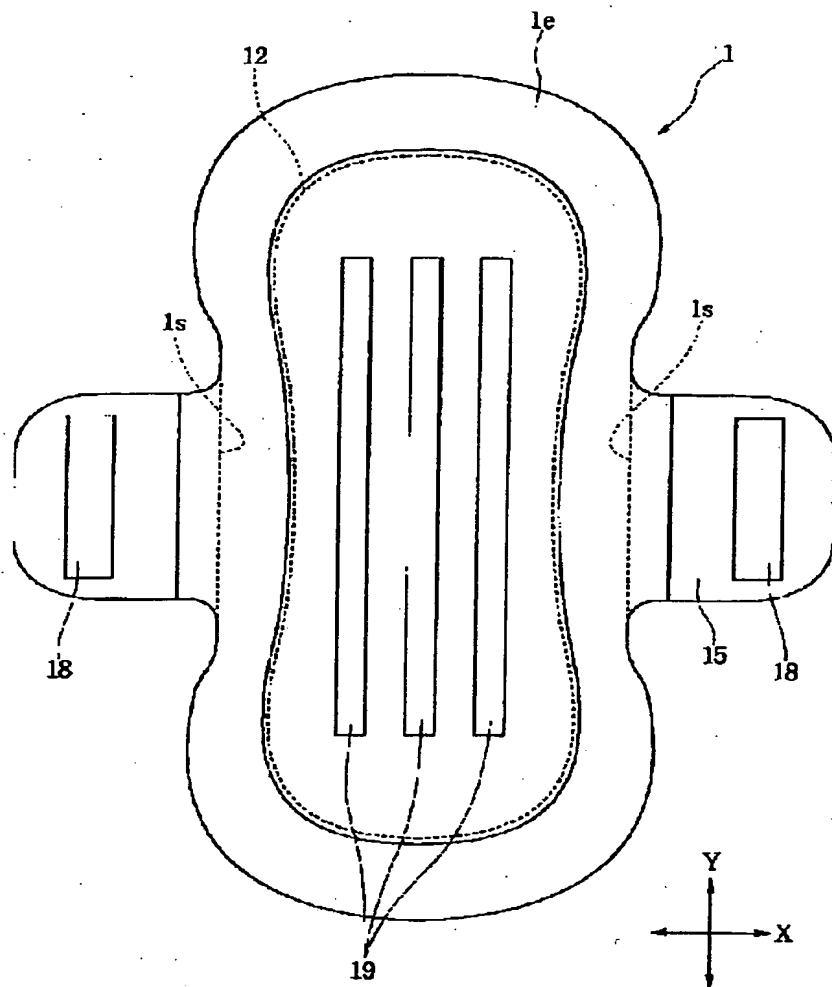
[Drawing 7]

図 7



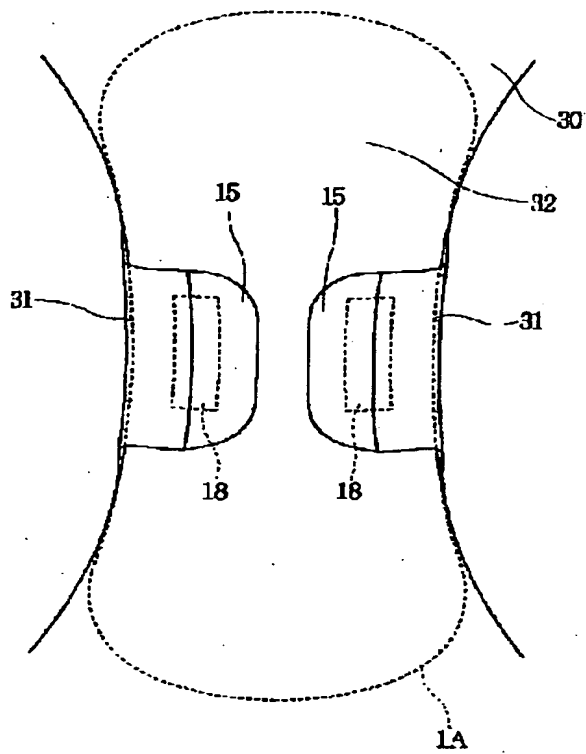
[Drawing 2]

図 2



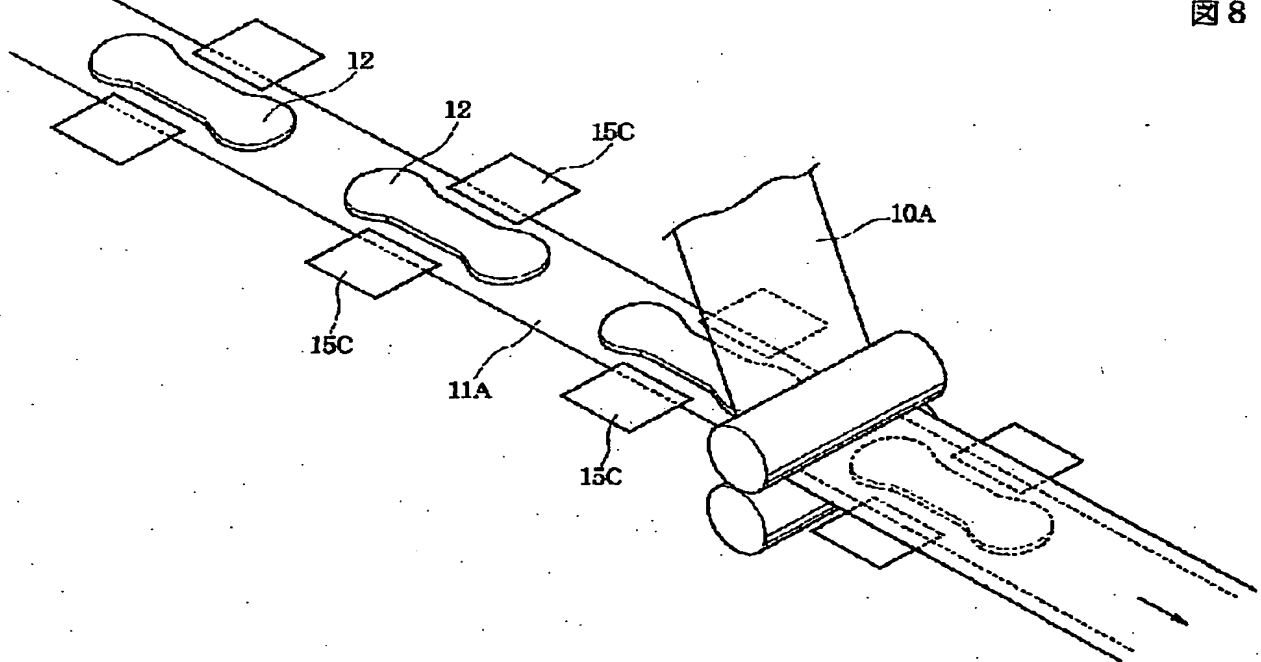
[Drawing 4]

図 4

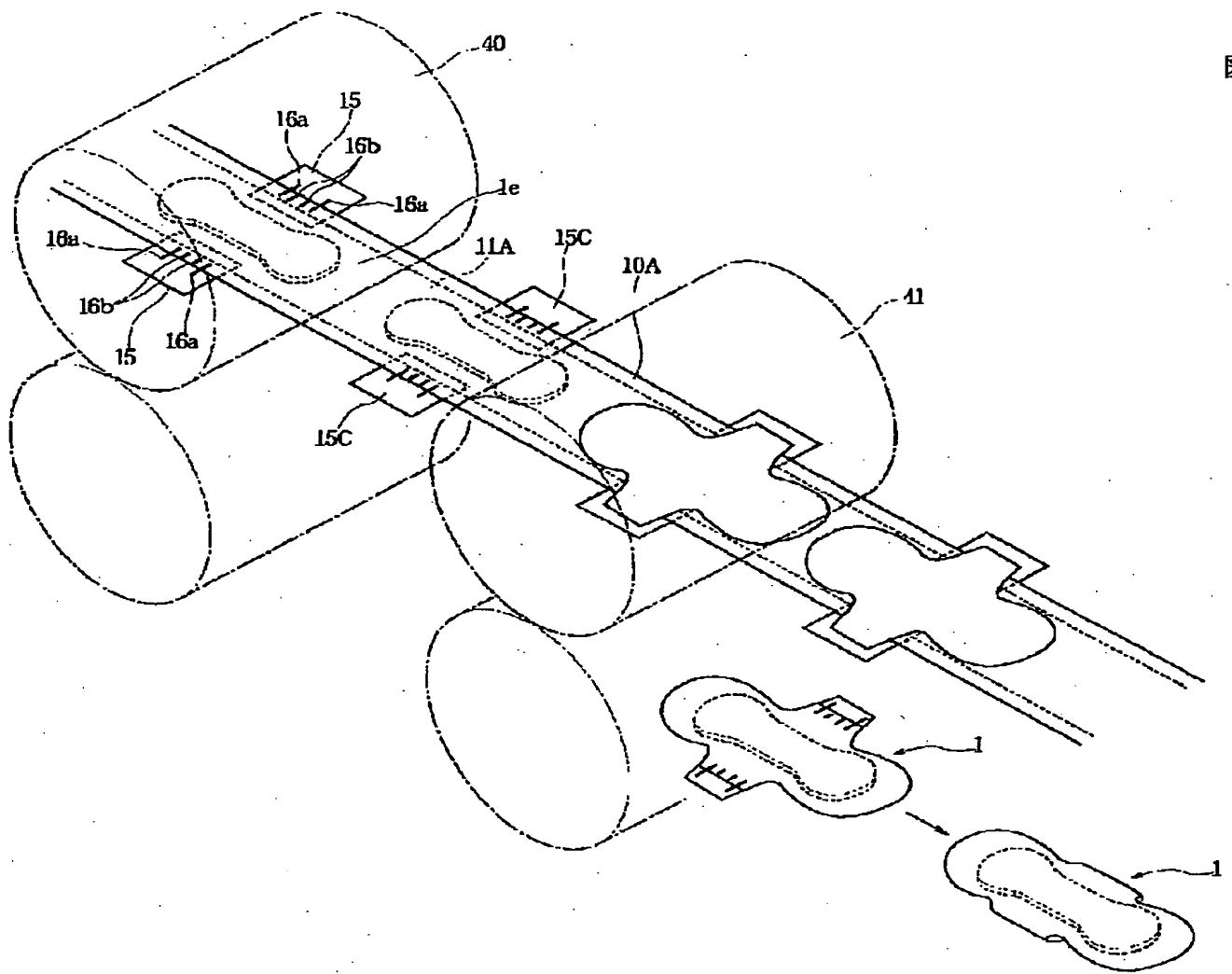


[Drawing 8]

図 8



[Drawing 9]



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(54) 【発明の名称】 ウィング部材を有する吸収性物品及びその製造方法

(57) 【要約】

【課題】 ウィング部材をトップシートとは別の部材で形成する場合において、ウィング部材を本体に確実に接合させる。

【解決手段】 バックシート11とトップシート10との間に吸収層12が挟まれて本体1Aが形成されている。本体1Aの幅方向の両側部では、バックシート11とトップシート10との間にウィング部材15が挟まれて接合されている。バックシート11とウィング部材15との接合領域の接合幅21よりも、トップシート10とウィング部材15との接合領域の接合幅22の方を長くしている。よって本体1Aとウィング部材15との接合強度を高くできる。

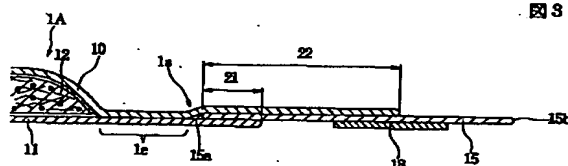


図3

【特許請求の範囲】

【請求項1】 液透過性トップシートとバックシートと前記両シートの間に挟まれた吸収層とからなる本体、および前記本体の両側部に設けられて前記本体から幅方向の外方に延出するウイング部材が設けられた吸収性物品において、前記ウイング部材は前記本体の両側部において、前記トップシートとバックシートとの間に挟まれて接合されていることを特徴とする吸収性物品。

【請求項2】 前記トップシートとウイング部材との接合領域の前記幅方向での幅寸法、および前記バックシートとウイング部材との接合領域の前記幅方向での幅寸法が共に5mm以上である請求項1記載の吸収性物品。

【請求項3】 前記本体部の前記ウイング部材が取り付けられている中央領域で、前記バックシートよりも前記トップシートの前記幅方向での幅寸法が広く形成されており、前記バックシートとウイング部材との接合領域の前記幅方向での幅寸法よりも、前記トップシートとウイング部材との接合領域の前記幅方向での幅寸法の方が大きい請求項1または2記載の吸収性物品。

【請求項4】 前記ウイング部材のJIS-Z-0208による透湿度が 10000 g/m^2 以上である請求項1から3のいずれかに記載の吸収性物品。

【請求項5】 前記トップシートと前記ウイング部材との前記接合領域の前記幅寸法が10mm以上であり、前記トップシートと前記ウイング部材との前記接合領域の面積を1(100%)としたときに、前記接合領域内での前記トップシートと前記ウイング部材との接着剤による実質的接合面積が0.2以下(20%以下)であり、さらに前記トップシートと前記ウイング部材とが部分的に溶着接合されている請求項4記載の吸収性物品。

【請求項6】 溶着接合部は幅方向へ延び、且つ長手方向へ間隔をあけて複数設けられ、この溶着接合部の少なくとも1つが、前記接合領域からウイング部材単独の領域にまで延びている請求項5記載の吸収性物品。

【請求項7】 前記ウイング部材とトップシートとバックシートとが接合されている領域でのカンチレバー法による剛性値が、前記トップシートとバックシートとの接合部でのカンチレバー法による剛性値よりも20mm以上大きい請求項1から6のいずれかに記載の吸収性物品。

【請求項8】 前記ウイング部材のカンチレバー法による剛性値が、MDで50~150mm、CDで30~100mmである請求項7記載の吸収性物品。

【請求項9】 前記ウイング部材は前記幅方向に伸縮性を有し、前記ウイング部材を、前記長手方向の全域に渡って前記幅方向へ均一に伸ばしたとき、歪み10%のときのウイング部材全体での収縮力が5gf以上である請求項1から8のいずれかに記載の吸収性物品。

【請求項10】 前記ウイング部材は前記幅方向に伸縮

性を有し、前記幅方向へ限界まで伸ばしたときの歪みが10~40%の範囲である請求項1から9のいずれかに記載の吸収性物品。

【請求項11】 前記ウイング部材の、JIS-K-7105による全光線透過率が20%以上である請求項1から10のいずれかに記載の吸収性物品。

【請求項12】 液透過性トップシートとバックシートと前記両シートの間に挟まれた吸収層とからなる本体、および前記本体の両側縁に設けられて前記本体から幅方向の外方に延出するウイング部材が設けられた吸収性物品の製造方法において、(a)バックシート素材の幅方向の両側にウイング部材素材を接合する工程と、(b)前記工程(a)の後、または前記工程(a)の前に、前記バックシート素材の上に吸収層を設置する工程と、

(c)前記吸収層の上にトップシート素材を供給して、前記トップシート素材とバックシート素材との間に吸収体を挟む工程と、(d)前記吸収層の外側で、前記トップシート素材と前記バックシート素材とを接合する工程と、(e)前記バックシート素材とトップシート素材および前記ウイング部材素材の不要部分を切除して、前記本体および前記ウイング部材とが連結された吸収性物品を得る工程と、

を含むことを特徴とする吸収性物品の製造方法。

【請求項13】 前記工程(a)で、前記ウイング部材素材を前記バックシート素材の上面に接合し、前記工程(c)で、前記ウイング部材素材を、前記バックシート素材とトップシート素材との間に挟んで接合する請求項12記載の吸収性物品の製造方法。

【請求項14】 前記工程(d)で、前記バックシート素材と前記トップシート素材とが接着剤により接合される請求項12または13記載の吸収性物品の製造方法。

【請求項15】 前記工程(d)と工程(e)の間に、トップシート素材とウイング部材素材とを溶着接合する工程を含む請求項12から14のいずれかに記載の吸収性物品の製造方法。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、生理用ナプキンやバンティライナー、尿取りパッドなどの吸収性物品に関する。更に詳しくは、着用時において、下着のクロッチ部の下側に折り返すウイングが設けられた吸収性物品とその製造方法に関する。

【0002】

【従来の技術及びその課題】近年、月経や尿などの排泄物を吸収させるため、生理用ナプキン、バンティライナー、尿取りパッドなどの吸収性物品が数多く使用されている。これらの吸収性物品には長手方向の両側部にウイングが設けられることが多い。装着時には、このウイングが下着のクロッチ部の下側に折り返され、排泄物で下着の縁部が汚れないようにすることができる。また、通

常このウイングには下着に取付けるための接着手段が設けられている。ウイングを下着のクロッチ部の下側に取付けて接着させると、吸収性物品自体がずれにくくなり、安定した装着が可能となる。

【0003】このウイングは、吸収性物品の本体を構成する部材、例えばバックシートとトップシートとが接合されたものを吸収性物品の本体から側方へ一体に突出させているものが一般的である。

【0004】しかし、バックシートとトップシートとが接合されたものをウイングとした場合、その製造方法としては、バックシートとトップシートとで吸収層を挟んだ積層体を形成し、この積層体から、長円形状や砂時計形状の本体部とウイングとをトリミングすることが必要になる。そのため、バックシート素材とトップシート素材の幅寸法として前記ウイングを切り出せるように予め幅広としたものを使用とすることが必要である。そして前記のように本体部とウイングを残して不要部分でトップシートとバックシートを切除することになるため、トップシート素材とバックシート素材のうちの無駄な部分が多くなり過ぎる。

【0005】また、従来のもので、ウイング部材にトップシートとは異なる機能を付与させるため、ウイング部材を本体を構成する部材とは別に形成したものもある。例えば特開平6-47072号には、ウイング部材とサイドバリア（横漏れ防止カフ）とを同一部材で構成した生理用ナプキンが開示されている。このナプキンでは通常別々に取付けられる部材を1つの部材で形成しているため、製造工程において1工程数減らして製造することができる。

【0006】また、特表平9-511929号には、ウイング部材を下着のクロッチ部の縁部に沿って下側に折り畳みやすくした吸収物品が開示されている。このウイング部材は伸長性が異なるゾーンをもち、折り畳み時に生じる応力が低下するようになっている。

【0007】しかし、ウイング部材が本体を構成する部材とは別の部材で構成される場合、ウイング部材が本体から外れやすいという欠点がある。さらに上記の例では、ウイング部材が吸収性物品のトップシートまたはバックシートの表面に接合されているため、ウイング部材と本体との接合強度を高くするには限界がある。そして、ウイング部材全体が吸収性物品の表面に露出しているため、装着時にウイング部材の端部が引っ掛かり、本体から外れてしまう可能性が高い。

【0008】また、ウイング部材は、下着の縁部に沿っての折り畳みやすさや、通気性などの機能が要求される。例えば前者の例のようにウイング部材とサイドバリアとを同一の部材で構成すると、ウイング部材を下着のクロッチ部の縁部に沿って下側に折り畳みにくくなってしまふ。さらに、通常サイドバリアは不透過性のもので構成されるが、同じ素材でウイング部材を形成すると、

通気性が低下し、下着内に蒸れが発生してしまう。それに対して後者の例のように伸長性が異なるゾーンをもつウイング部材は、通気性のある素材で形成することは可能であり、また下着のクロッチ部の縁部に沿って下側に折り畳みやすくなっている。しかし、伸長性が異なるゾーンの存在によりウイング部材の折り畳み可能面積が広くなり、製造工程においてウイング部材を折り畳むときに、決まったラインで折り畳むことが難しい。その結果、生産効率が上がりにくい。

10 【0009】本発明の目的は上記課題を解決するためのものであり、ウイング部材を確実に接合させた吸収性物品を提供することにある。

【0010】本発明の更なる目的は、下着のクロッチ部の縁部に沿って下側に折り畳みやすくしたウイング部材をもつ吸収性物品並びにその製造方法を提供することにある。

【0011】本発明の更なる目的は、通気性に優れたウイング部材をもつ吸収性物品並びにその製造方法を提供することにある。

20 【0012】本発明の更に他の目的は、素材のトリムロス可能な限り少なくできて、生産効率に優れた吸収性物品の製造方法を提供することにある。

【0013】

【課題を解決するための手段】本発明は、液透過性トップシートとバックシートと前記両シートとの間に挟まれた吸収層とからなる本体、および前記本体の両側部に設けられて前記本体から幅方向の外方に延出するウイング部材が設けられた吸収性物品において、前記ウイング部材は前記本体の両側部において、前記トップシートとバックシートとの間に挟まれて接合されていることを特徴とする吸収性物品を特徴とするものである。

30 【0014】本発明では、ウイング部材をトップシートとバックシートとの間に挟んでいるので、ウイング部材を本体に確実に接合でき、装着時にウイング部材が外れてしまうことがない。この本発明では、ウイング部材をトップシートやバックシートとは別の材料で構成しているので、ウイング部材に種々の機能を持たせることができる。

40 【0015】本発明では、前記トップシートとウイング部材との接合領域の前記幅方向での幅寸法、および前記バックシートとウイング部材との接合領域の前記幅方向での幅寸法が共に5mm以上であることが好ましい。

【0016】また、前記本体部の前記ウイング部材が取付けられている中央領域で、前記バックシートよりも前記トップシートの前記幅方向での幅寸法が広く形成されており、前記バックシートとウイング部材との接合領域の前記幅方向での幅寸法よりも、前記トップシートとウイング部材との接合領域の前記幅方向での幅寸法の方が大きいことが好ましい。

50 【0017】また、前記ウイング部材のJIS-Z-0

208による透湿度が 10000 g/m^2 以上であることが好ましい。この場合、前記トップシートと前記ウィング部材との前記接合領域の前記幅寸法が 10 mm 以上であり、前記トップシートと前記ウィング部材との前記接合領域の面積を $1(100\%)$ としたときに、前記接合領域内での前記トップシートと前記ウィング部材との接着剤による実質的接合面積が 0.2 以下(20% 以下)であり、さらに前記トップシートと前記ウィング部材とが部分的に溶着接合されていることが好ましい。さらに、溶着接合部は幅方向へ延び、且つ長手方向へ間隔をあけて複数設けられ、この溶着接合部の少なくとも1つが、前記接合領域からウィング部材単独の領域にまで延びていることが好ましい。

【0018】また、本発明では前記ウィング部材とトップシートとバックシートとが接合されている領域でのカンチレバー法による剛性値が、前記トップシートとバックシートとの接合部でのカンチレバー法による剛性値よりも 20 mm 以上大きいことが好ましい。この場合、前記ウィング部材のカンチレバー法による剛性値が、MDで $50\sim150\text{ mm}$ 、CDで $30\sim100\text{ mm}$ であることが好ましい。

【0019】また、本発明では前記ウィング部材は前記幅方向に伸縮性を有し、前記ウィング部材を、前記長手方向の全域に渡って前記幅方向へ均一に伸ばしたとき、歪み 10% のときのウィング部材全体での収縮力が 5 gf 以上であることが好ましい。

【0020】また、前記ウィング部材は、前記幅方向に伸縮性を有し、前記幅方向へ限界まで伸ばしたときの歪みが $10\sim40\%$ の範囲であることが好ましい。

【0021】また、本発明では、前記ウィング部材の、JIS-K-7105による全光線透過率が 20% 以上であることが好ましい。

【0022】また、本発明では、液透過性トップシートとバックシートと前記両シートとの間に挟まれた吸収層とからなる本体、および前記本体の両側縁に設けられて前記本体から幅方向の外方に延出するウィング部材が設けられた吸収性物品の製造方法において、(a)バックシート素材の幅方向の両側にウィング部材素材を接合する工程と、(b)前記工程(a)の後、または前記工程(a)の前に、前記バックシート素材の上に吸収層を設置する工程と、(c)前記吸収層の上にトップシート素材を供給して、前記トップシート素材とバックシート素材との間に吸収体を挟む工程と、(d)前記吸収層の外側で、前記トップシート素材と前記バックシート素材とを接合する工程と、(e)前記バックシート素材とトップシート素材および前記ウィング部材素材の不要部分を切除して、前記本体および前記ウィング部材とが連結された吸収性物品を得る工程と、を含むことを特徴とする吸収性物品の製造方法を提供する。

【0023】この製造方法では、製造後にでる削除され

た不要部分、いわゆるトリムロスが少なく、また簡単にウィング部材を本体に取付けることができるので、生産性に優れている。なお本発明の製造方法に関しては、ウィング部材素材が、トップシート素材とバックシート素材との間に挟まれておらず、例えばバックシート素材の裏面側にウィング部材素材を接合してもよい。

【0024】前記工程(a)で、前記ウィング部材素材を前記バックシート素材の上面に接合し、前記工程(c)で、前記ウィング部材素材を、前記バックシート素材とトップシート素材との間に挟んで接合することが好ましい。

【0025】前記工程(d)で、前記バックシート素材と前記トップシート素材とが接着剤により接合されることが好ましい。

【0026】前記工程(d)と工程(e)の間に、トップシート素材とウィング部材素材とを溶着接合する工程を含むことが好ましい。

【0027】

【発明の実施の形態】図1は本発明の吸収性物品の受液側から見た平面図、図2は図1に示した吸収性物品を裏側から見た平面図、図3は図1のIII-III線の断面図、図4は図1に示した吸収性物品を下着に装着した状態を示す部分平面図である。なお、吸収性物品の長手方向をY方向とし、Y方向とはほぼ直交する幅方向をX方向とする。

【0028】図1に示す吸収性物品は、生理用ナプキンである。この生理用ナプキン1は、Y方向に延びる中心線L_yを境にほぼ左右対称となっている。生理用ナプキン1は、図3に示す断面図からもわかるように、受液側に向けられる透液性のトップシート10と、外側に向けられる不透液性のバックシート11と、前記トップシート10と前記バックシート11との間に挟まれる吸収層12とからなる本体、並びに本体1AのY方向の両側部に設けられたウィング部材15から形成されている。そして、トップシート10とバックシート11は、吸収層12の周囲でホットメルト型接着剤などにより互いに接合されて周辺接合部1eを形成している。

【0029】図2に示すように、生理用ナプキン1の本体1Aの裏側には接着剤19が、ウィング部材15の裏側には接着剤18が設けられている。装着時には、図4に示すように、生理用ナプキン1が下着30の内側のクロッチ部32に設けられる。このとき、本体1Aの裏側に設けられた接着剤19が下着30のクロッチ部32の内面に掛止される。そして、本体1AのX方向の外方へ延出するウィング部材15とトップシート10の延出部分が下着30の縁部31に沿って折り曲げられて、ウィング部材15は接着剤18によって下着30に掛止される。このようにウィング部材15を設けることにより、下着の縁部が汚れたり、生理用ナプキン1がずれたりすることを防止できる。

【0030】図3に示すように、ウイング部材15は、側部においてトップシート10とバックシート11との間に挟まれてホットメルトなどの接着剤で接合されている。その接合領域の重なり幅、すなわちバックシート11とウイング部材15とのX方向における接合幅21、およびトップシート10とウイング部材15との接合幅22は、共にウイング部材15が本体1Aから容易に外れないように、少なくとも5mm以上であることが好ましい。

【0031】さらにウイング部材15と本体1Aとの接合強度（引裂強度）を高めるため、また、下着の縁部31に沿って折り畳むときにウイング部材15を本体1Aから折り曲げやすくするため、トップシート10は、バックシート11よりX方向外側へ延出していることが好ましい。すなわち、本体1AのY方向の中央部において前記ウイング部材15が取付けられる領域においては、トップシート10のX方向の寸法が、バックシート11の前記X方向の寸法よりも広く、その結果、図3の断面で示されるバックシート11とウイング部材15とのX方向における接合幅21よりも、トップシート10とウイング部材15との接合幅22の方が大きいことが好ましい。

【0032】なお、トップシート10よりもバックシート11をX方向外側へ長く延出させることによっても、本体1Aとウイング部材15との接合強度（引裂強度）を高くできるが、バックシート11が液不透過性である場合、バックシート11をX方向外側へ延出させるとウイングの透湿度が低下する。この理由から、トップシート10のX方向への延出幅寸法をバックシート11の前記延出幅寸法よりも長くして、トップシート10とウイング部材15との接合幅を大きくして、ウイング部材15の接合強度を高めることが好ましい。

【0033】ウイング部材15とトップシート10との接合強度（引裂強度）は、1000g（f）以上であることが好ましい。

【0034】（測定1）ウイング部材15とトップシート10との前記引裂強度を以下のようにして測定した。図1に示す形状のトップシート10とウイング部材15との接合体を製造した。これはバックシート11と吸収層12を有しないものである。

【0035】一方のチャックで一方のウイング部材15の前記接合幅22よりも幅方向の外側部分、すなわちトップシート10と接合されていないウイング部材15が単独で現れている部分を掴み、他方のチャックでトップシート10の図1の図示上方側（Y1側）の先端を掴んだ。ウイング部材15を掴んでいるチャックを固定しトップシート10の先端を掴んでいるチャックをY2方向へ引張ったときに、トップシート10とウイング部材15との接合部に引き裂きが発生し始めた瞬間での前記チャック間に与えられている荷重を測定値（g）とした。

なお、この場合の一方のチャックに対する他方のチャックのY方向への相対速度を100mm/minとした。

【0036】また測定した試料では、前記トップシート10とウイング部材15とのX方向の接合幅22をY方向に渡って均一にした。また前記接合幅22の接合領域では、トップシート10とウイング部材15との間にホットメルト型接着剤を間欠的に且つ接合幅22の接合領域内で接着剤の分布が均一になるように塗布した。前記接合幅22での接合領域の全面積を1（100%）としたときに、前記接合領域内でのホットメルト型接着剤の塗布面積（実質的接合面積）を0.5（50%）とした。

【0037】前記接合幅22の寸法を変えた試料についてそれぞれ前記引裂強度を測定した結果を示す。

接合幅	引裂強度
5mm	500g
10mm	700g
15mm	1200g
20mm	1200g

この結果より、トップシート10とウイング部材15との接合幅22は15mm以上であることが好ましい。ただし、本体1Aとウイング部材15との接合体では、バックシート11とウイング部材15との接合によって前記引裂強度を補強できる。したがってトップシート10とウイング部材15との接合幅22は10mm以上が好ましく、さらに好ましくは15mm以上である。

【0038】次に、ウイング部材15は、装着時において下着内の湿度が高くなり蒸れが発生しないように、好ましくは通気性をもつシートから形成される。ウイング部材15のJIS-Z-0208による透湿度は10000g/m²・24h以上であることが好ましい。また、トップシートの透湿度も10000g/m²・24h以上であることが好ましい。しかし、トップシート10とウイング部材15との接合領域において、ホットメルト接着剤を接合幅22の接合領域の全面に塗布すると、ウイング部材15とトップシート10とが重なっている領域において透湿度が低下する。よって、接合幅22の接合領域内での接着剤の塗布面積（実質的接合面積）を調整することが好ましい。しかし、この接着剤の塗布面積は、本体1Aとウイング部材15との接合強度（引裂強度）にも影響を与える。

【0039】（測定2）そこで、前記測定1で説明したサンプル、すなわちトップシート10とウイング部材15との接合体を用い、前記接合幅22を15mm（前記測定1で得られた好ましい範囲の下限）とし、接着剤の塗布面積（実質的接合面積）を変えて、前記接合幅22での接合領域内での透湿度、および引裂強度との関係を測定した。

【0040】ここでの、接合領域の面積に対する接着剤の塗布面積の比については前記測定1で説明したのと同

じである。また引裂強度の測定も前記測定1と同じである。

【0041】測定結果は以下の通りである。(なお、透湿度の単位は $g/m^2 \cdot 24h$ である)。

【0042】

接着面積比	透湿度	引裂強度
5%	95000	300g
10%	9000	500g
20%	8000	1000g
50%	5000	1200g
100%	0	1200g

この結果から、接着剤の塗布面積比が20%以下であれば、透湿度が好ましい値となる。しかし、引裂強度が低下しているので、このような場合ウイング部材15とトップシート10とをさらに溶着接合(熱シール、高周波溶着、超音波溶着など)によって接合し、接合強度を高くすることが好ましい。

【0043】図1に示す実施の形態では、接合幅22の範囲内での透湿度をあまり低下させず且つ引裂強度を高められるように、X方向へ延びる熱シール部16a、16bが、長手方向へ間隔をあけて複数設けられている。このとき、熱シール部のいずれか少なくとも1つ(図1では熱シール部16a、16a)が前記接合幅22の範囲を超えてウイング部材15が単独で現れている領域まで延びていることが好ましい。このような熱シール部16a、16bを設けることにより、接合幅22の範囲での透湿度を良好にし、しかもトップシート10とウイング部材15との引裂強度を少なくとも1200g以上に保つことが可能である。

【0044】このように、熱シール部をウイング部材15が単独で現れている領域まで延びていると、トップシート10のX方向の両縁部がウイング部材15から剥がれるのを防止する効果もある。すなわち、前記接合幅22内で、トップシート10とウイング部材15とを接合するためのホットメルト型接着剤を塗布する場合に、トップシート10のX方向の縁部まで塗布すると、製造工程で、トップシート10の前記縁部が製造装置に接着され、製造作業に支障をきたすおそれがある。よって通常は、トップシート10の前記縁部において接着剤が塗布されていない領域を若干の幅で形成しておくことが必要である。このような場合に、前記熱シール部16a、16bを形成しておく、トップシート10の縁部がウイング部材15から浮き上がるのを防止できる。

【0045】また、生理用ナプキン1では、ウイング部分が下着30の縁部31に沿って折り曲げやすくなっていることが好ましい。ウイング部材15とトップシート10とバックシート11とが接合されている領域、すなわち図3での接合幅21の領域における剛性値(JIS L1096のカンチレバー法で測定した値)が、前記

わち周辺接合部1eにおける剛性値より20mm以上大きいと、本体1Aとウイング部材15との境界線1s(ウイング部材15の基端縁部)でウイングが折り曲がりやすくなる。

【0046】ウイング部材15を境界線1sでさらに折り曲げやすくするため、周辺接合部1e(トップシート10とバックシート11とが積層された部分)の剛性値をJIS L1096のカンチレバー法において30~80mmに設定し、ウイング部材15側での境界線1sに近い部分(トップシート10とバックシート11とウイング部材15とが積層された部分)の剛性値を50~150mmに設定することが好ましい。

【0047】境界線1sに近いウイング部材15側の部分の剛性値が前記下限(50mm)より小さいと、境界線1sの部分で折り曲がらず、境界線1sよりも幅方向の外側の部分で折り曲がりやすくなる。その結果、例えばウイング部材15がずれ止め接着剤18の塗布領域で折り曲がり、接着剤18どうしが接着して、ウイング部材15が折れ曲がったままの状態で平坦状に戻せなくなるなどの不都合が生じる。なお、各剛性値が前記上限(150mm)より大きいと、使用中において装着者が違和感を感じることもある。

【0048】なお、ウイング部材15の剛性は、MDが50~150mm、CDが30~100mmであることが好ましい。肌へのこすれが少なくなり、装着感が良くなる。また、この場合、ウイング部材の境界線1sに近い部分(トップシート10とバックシート11とウイング部材15とが積層された部分)の剛性値も好ましい値となる。

【0049】また、ウイング部材15はX方向の幅寸法が50mmである場合、同方向へ5~20mmの範囲で伸縮できることが好ましい。すなわち前記ウイング部材は、前記幅方向に伸縮性を有し、前記幅方向へ限界まで伸ばしたときの歪みが10~40%の範囲であることが好ましい。なお、縦方向には伸縮性が無い若しくはかなり小さいことが好ましい。装着時に下着30のクロッチ部32において下側に折り畳んで掛止させるときに、ウイング部材15がX方向へある程度伸縮性がある方が掛止させやすい。この場合、クロッチ部32へウイング部材15を折り曲げやすくするために、前記ウイング部材を、前記長手方向の全域に渡って前記幅方向へ均一に伸ばしたとき、歪み10%のときのウイング部材全体での収縮力が5gf以上であることが好ましい。

【0050】ウイング部材15は、その全てにおいて伸縮性をもっていてもよいが、必要箇所においてのみ伸縮性を設けても良い。例えば、図5に示すように、ウイング部材15Aの境界線1s側においてのみ伸縮性がある領域15sを設けてもよい。また、図6に示すウイング部材15Bのように境界線1s側と、端部15b側に伸縮性がある領域15sと15rを設けてもよい。

【0051】なお、ウイング部材15全体に伸縮性を持たせるため、または前記領域15sまたは15rにおいて伸縮性を持たせるため、前記ウイング部材15全体、または領域15sまたは15rを、ウレタンとスパンボンド不織布の一部貼り合わせによって形成することができる。

【0052】また、ウイング部材15は、JIS-K-7105による全光線透過率が20%以上であることが好ましい。ウイング部材15は、図4に示すように、下着30のクロッチ部において下着30の外側に固定される。よって、ウイング部材15の光線透過率が高いと、ウイング部材15を通して下着30の色が透けて見えるため、生理用ナプキンを着用していることがわかりにくい。例えば、ウイング部材15が不織布で形成される場合、不織布はチタンなどの可塑剤が含有されていない非ダ化シートであることが好ましい。また例えば、透明フィルムなどで形成してもよい。

【0053】ウイング部材15は、例えば不織布やフィルムなどで形成できる。好ましくは、ポリプロピレンからなるサーマルボンド不織布であり、さらに好ましくはスパンボンド-メルトブローンスパンボンド不織布で形成される。

【0054】トップシート10は、親水処理された疎水性繊維、親水性繊維などで形成されたものであり、例えばポイントボンド、エアースルー、スパンボンド、スパンレース不織布などである。または、前記不織布に嵩高な不織布からなるクッション層を重ねてトップシート10を形成してもよい。

【0055】バックシート11は液不透過性で且つ通気性であり、例えばポリオレフィン系の樹脂シートなどにより形成されている。または、バックシート11として不織布を用い、バックシート11と吸収層12との間に防水性フィルムを介在させてもよい。

【0056】吸収層12は、吸収性素材、例えばレーヨン、コットンなどの親水性繊維からなる繊維ウェブや、粉砕バルブあるいは粉砕バルブと高吸水性ポリマーの混合物などにより形成されるものである。または、粉砕バルブあるいは粉砕バルブと高吸水性ポリマーとの混合物がティッシュなどの吸収性シートで包まれたものである。

【0057】次に、図1に示した生理用ナプキン1の製造方法について図7~9を参照して説明する。

【0058】まず、図7に示すように連続的に供給されている帯状のバックシート素材11Aの幅方向の両側部に、四角片形状のウイング部材素材15Cを接合する。このウイング部材素材15Cは帯状の材料から切断されたものであり、このウイング部材素材15Cは、MD方向方向へ間隔をあけて供給され、バックシート素材11Aにホットメルト型接着剤によって互いに接合される。

【0059】次に、図8に示すように、吸収層12が間

欠的に供給されて、バックシート素材11Aの上で、且つウイング部材素材15Cと15Cとの間に設置される。このとき、バックシート素材11Aと吸収層12とが、ホットメルト型接着剤などで接合される。なお、バックシート素材11Aの上に吸収層12が供給された後に、前記ウイング部材素材15Cがバックシート素材11Aの上に接着接合してもよい。

【0060】その後、トップシート素材10Aが連続的に供給されて、吸収層12は、バックシート素材11Aとトップシート素材10Aとの間に挟まれる。このとき、吸収層12の周辺で、トップシート素材10Aとバックシート素材11Aとが、予めバックシート素材11Aに塗布されたホットメルト型接着剤により接着される。

【0061】そして、図9に示すように、第1のロール40によって吸収層12の周辺部が熱シールされてトップシート素材10Aとバックシート素材11Aとが、吸収層12の周辺で接合されて周辺接合部1eが形成される。このとき、同時に、トップシート素材10Aとバックシート素材11Aとの接合部に、熱シール部16a、16bが形成される。

【0062】そして、第2のロール41によって不要部分が削除される（トリミングまたはトリムカット）。カットして得られた生理用ナプキン1は、ウイング部材15がバックシート側へ、若しくはトップシート側へ折り畳まれる。このとき、上記したようにウイング部材15が境界線1sで折り畳まれやすくなっていると、簡単に折り曲げ工程を進めることができる。そして、図示していないが、さらに三つ折りや四つ折りにされて、個別に包装される。

【0063】以上のような工程でウイング部材を本体1Aにとりつけると、簡単且つ確実に取りつけることができる。また、本発明の製造方法では、従来のトップシートを幅方向外方へ延出させてウイングを形成する場合、すなわち、ウイングを含めた幅方向にトップシート延出させて不要部分を削除する場合に比べて、廃棄部分が少ない（トリムロスが少ない）。

【0064】なお、本発明のウイング部材が設けられる吸収性物品は上記述べたような生理用ナプキンに限られず、例えばバンティライナーや尿取りパッドなどにも適用可能である。そして、全体の形状はその使用目的によって適宜変更される。また、吸収性物品には、いわゆる横漏れ防止用バリアーカフ（サイドギャザー）などを両側部に設けることも可能である。

【0065】

【発明の効果】以上述べたように、本発明の吸収性物品では、ウイング部材が本体から容易に離脱することがない。また、透湿度や通気性を保ちながらも、ウイング部材を確実に本体に接合できる。また、本体をウイング部材の剛性を調節することにより、ウイング部材を本体の

側部で折り曲げやすくできる。この場合、装着時に装着が簡単になり、また製造工程において折り曲げ加工が簡単になる。

【0066】また、本発明の吸収性物品の製造方法では、製造工程中に生まれる廃棄部分が少なく、また簡単に製造することができるので生産性を高くできる。

【図面の簡単な説明】

【図1】本発明の吸収性物品の受液側から見た平面図

【図2】図1に示した吸収性物品を裏側から見た平面図

【図3】図1のⅠⅠⅠ-ⅠⅠⅠ線の断面図

【図4】図1に示した吸収性物品を下着に装着した状態を示す部分平面図

【図5】ウィング部材の他の実施例を示す平面図

【図6】ウィング部材の更に他の実施例を示す平面図

【図7】バックシート素材とウィング部材素材とを供給する状態を説明する工程図

【図8】吸収層とトップシート素材とを供給する状態を説明する工程図

【図9】生理用ナプキンを得る最終工程図

【符号の説明】

1 生理用ナプキン

* 1A 本体

1e 周辺接合部

1s 境界線

10 トップシート

10A トップシート素材

11 バックシート

11A バックシート素材

12 吸収層

15 ウィング部材

10 15C ウィング部材素材

16a、16b 熱シール部

18 接着剤

19 接着剤

21 接合幅

22 接合幅

30 下着

31 縁部

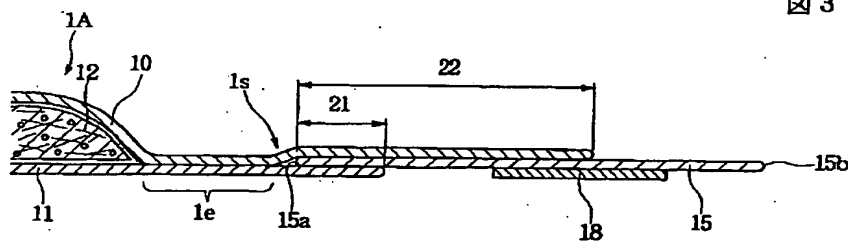
32 クロッチ部

40 第1のロール

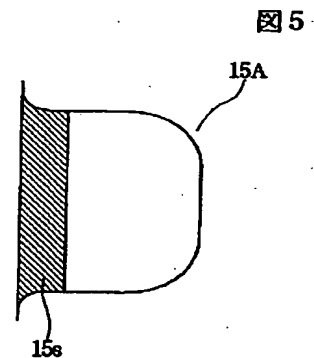
20 41 第2のロール

*

【図3】

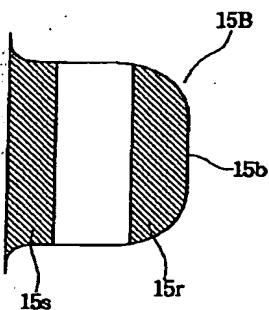


【図5】



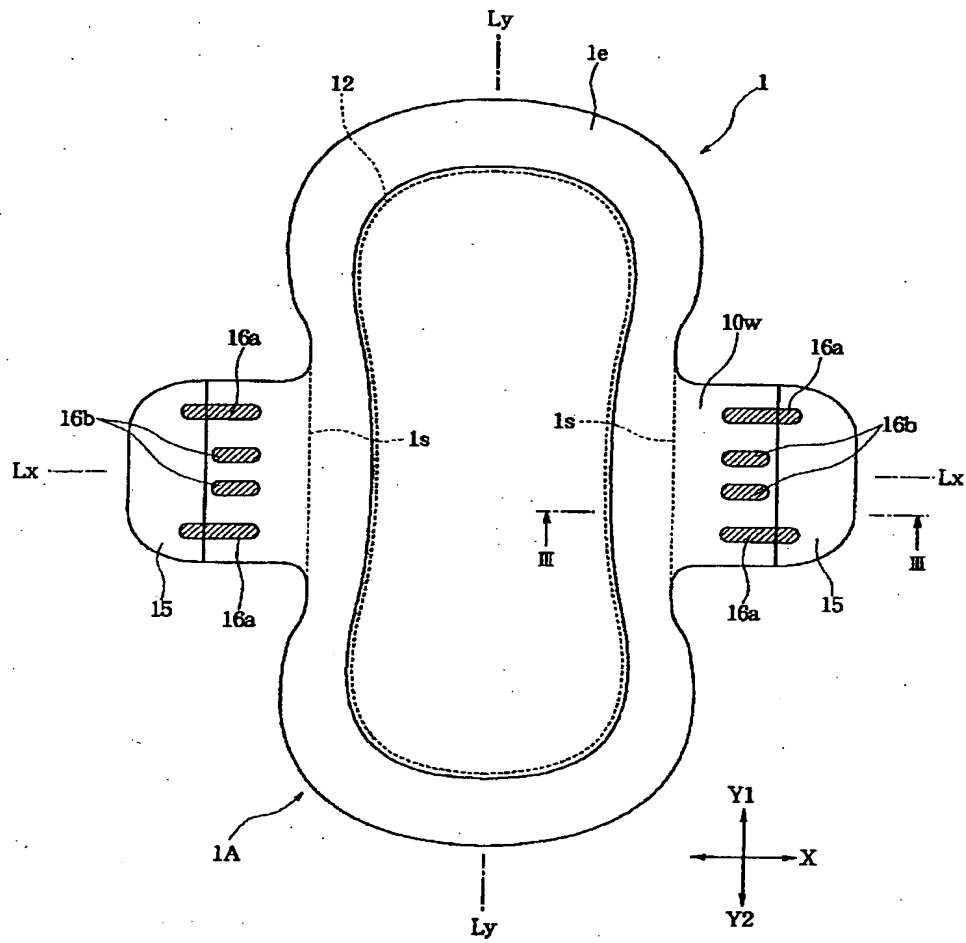
【図6】

図6



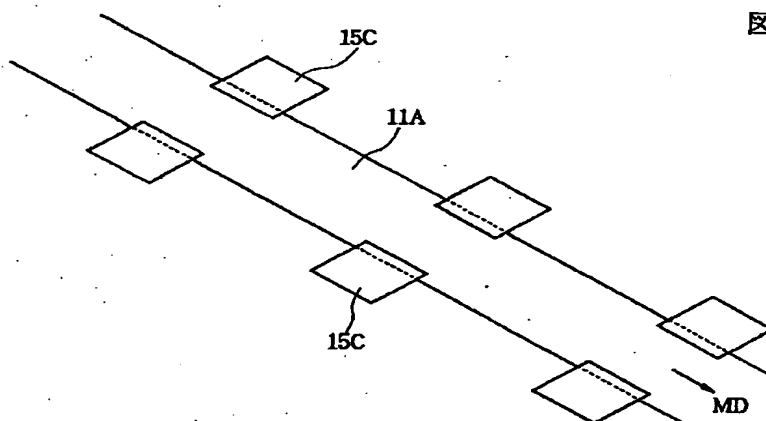
【図1】

図1



【図7】

図7



【図2】

図2

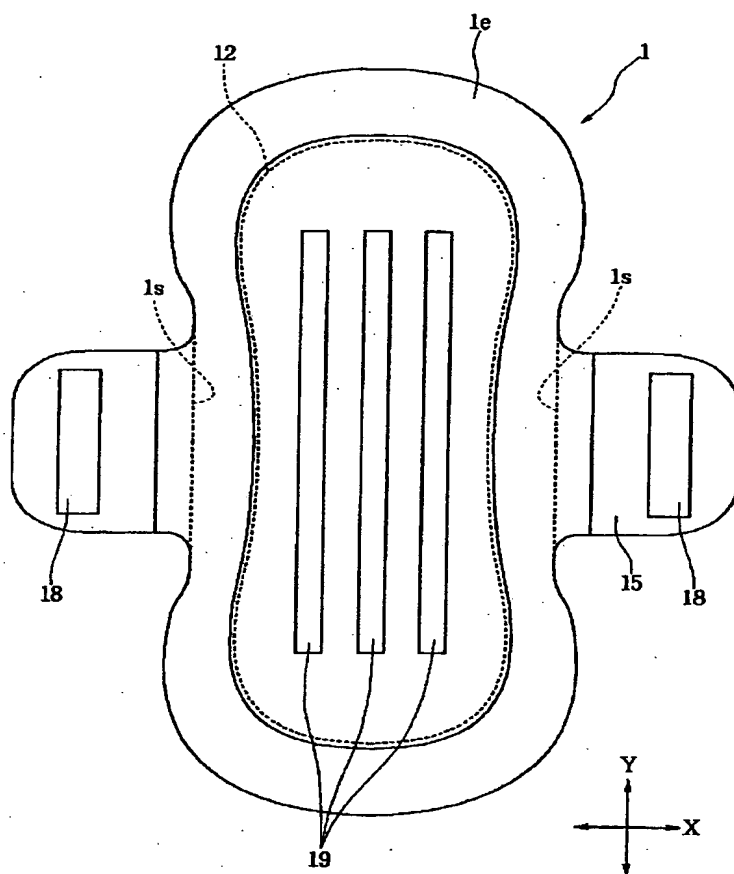
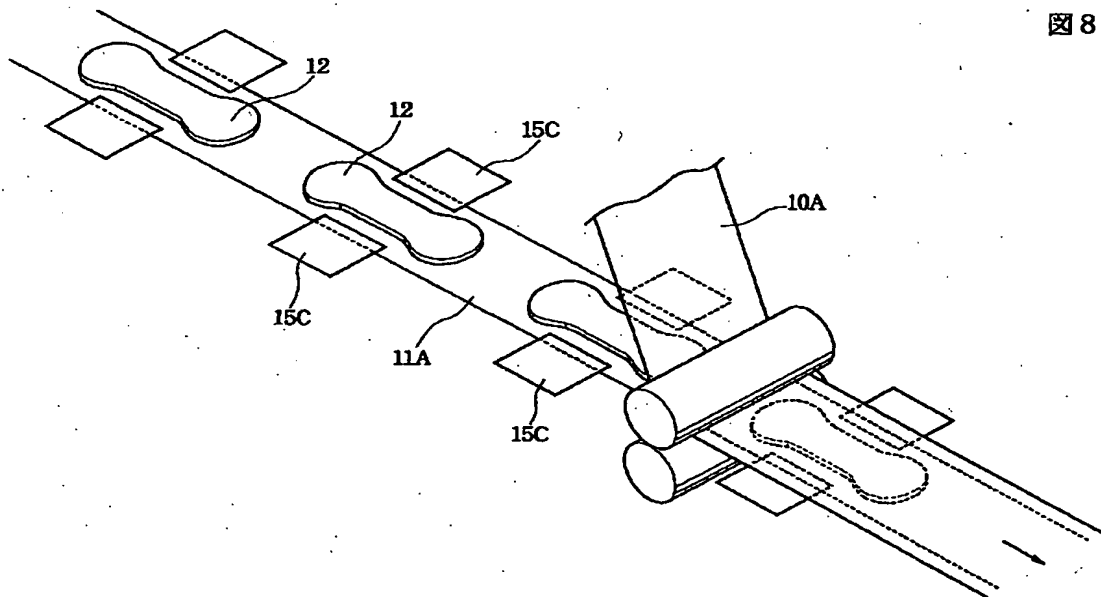


图 4



【図9】

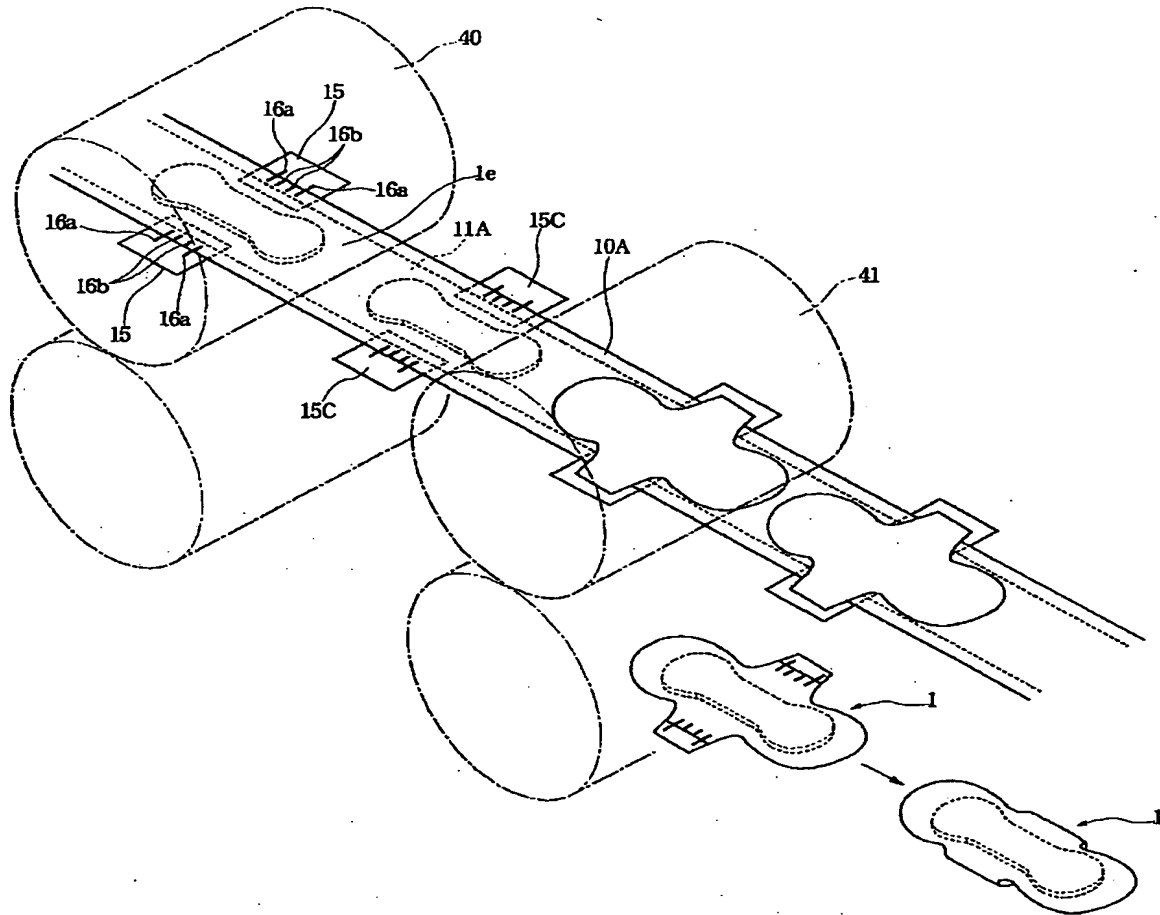


図9